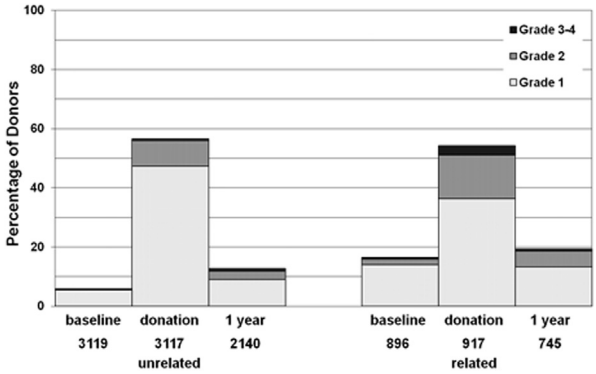

Figure 2. Highest Toxicity Level Across All Body Symptoms (fever in the absence of signs of infection. fatigue, skin rash, local reactions, nausea, vomiting, anorexia, insomnia, dizziness, and syncope) experienced by PBSC donors, by unrelated vs. related donors, at baseline, donation, and 1 year post-donation.

donation-related grade 2-4 pain, grade 3-4 pain, and grade 2-4 MTC (Table 2) compared to URDs of PBSC. In addition, RDs of PBSC were less likely than URDs of PBSC to return to baseline levels of pain and MTC at 1 year. Although only a small fraction of both URDs and RDs reported grade 2-4 pain/MTC 1 year post-donation (Table 1), RDs were 2-3 times more likely to report pain/MTC at 1 year than URDs.

Conclusions: RDs of PBSC have more baseline and donation-related pain/MTC and less complete 1 year recovery than URDs. Ongoing analysis of baseline health status of RDs on the RDSafe trial is underway to further define differences between RDs/URDs that could account for these higher levels of pain/MTC.

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Beneficial Effects of G-CSF Dosage Adaption in Allogeneic Stem Cell Donors That Are at Risk for Poor Mobilization. Retrospective Dual Center Analysis of 5691 Allogeneic Stem Cell Mobilizations

Michael Punzel [1,2], *Jutta Rox* [2], *Karin Buhrmann* [1], *Helmuth Schmidt* [1], *Anna Kozlova* [1], *Tilo Robitzsch* [2], *Annegret Quade* [3], *Carsten Bartling* [3], *Gerhard Ehninger* [1], *Johannes C. Fischer* [2]. [1] *MediaPark Klinik, Cellex Cologne, Cologne, Germany;* [2] *Institute for Transplantation Diagnostics and Cellular Therapeutics, Medical Faculty Heinrich-Heine-University Duesseldorf, Duesseldorf, Germany;* [3] *MVZ Labor Quade, Cologne, Germany*

Peripheral blood stem cells (PBSC) are the major source for allogeneic stem cell transplantations. It has been shown that treatment with 7.5 μg/kg G-CSF for 5 days is sufficient to mobilize and collect required CD34+ cells for transplantation. However, uncertainty remains in 0.5–5.0% of all donors regarding insufficient mobilization. In this retrospective analysis we evaluated 5691 allogeneic stem cell mobilization regimens (72% male vs. 28% female donors) from two major collection centers focusing on donor risk factors for poor mobilization. According to our historical reciprocal weight and BMI-adapted mobilization protocol low weight/low BMI donors received > 8.3μg/kg/d for 4 days, whereas overweight donors received <7.5 μg/kg. At day 5 all donors received 526μg G-CSF 2 hours before apheresis. In total, a mean G-CSF-dosis of 8.9 ± 1.0μg/kg/d for 5 days has been utilized (min 4.5μg/kg/d – max. 15.9μg/kg/d). Mean CD34+ cell concentration of 95 ± 49/μl could be achieved in the peripheral blood at day 5 before starting apheresis. This enabled us to collect a mean of 9.7 ± 8.0 CD34+ cells/kg body weight recipient corresponding to 658 ± 252 million total CD34+ cells in the product. In 96.3% of all cases one single apheresis was sufficient to collect the requested amount of CD34+ cells. Using logistic regression analysis we defined female sex, low BMI and low platelet (PLT) count at baseline as strongest risk factors for poor mobilization. Low white blood cell (WBC) concentration, low hematocrit and G-CSF-doses < 9μg/kg/d were also significantly associated with poor mobilization. Using the strongest numeric predictors (BMI, PLT) we employed STEPP-analysis to establish a statistically significant cross table risk score, that allows prediction of CD34+ cells in the peripheral blood at day 5 according to baseline PLT and BMI. From lowest cumulative risk score 2 (PLT>290; BMI>34.5) to highest risk score 6 (PLT<170; BMI<20.7) differences between all risk scores were highly significant. Interestingly, subgroup analysis demonstrated that female but not male donors with poor risk score that received > 9μg/kg/d G-CSF could improve significantly mobilization outcome without further side effects. Thus, overall results demonstrated that weight adapted G-CSF dosage for allogeneic donor treatment may improve mobilization outcome, i.e. in poor risk prospect female donors with low BMI and low PLT at baseline. Further genetic analysis may identify factors responsible for mobilization outcome.

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A Survival Benefit for Reduced Intensity Allogeneic Transplants from Young Unrelated Donors Compared to Older Sibling Donors Depends on the Graft CD8 T-Cell Content

Ran Reshef [1], *Austin P. Huffman* [1], *Amy Gao* [1], *Mary Sell* [2], *Marlise R. Luskin* [1], *Selina Luger* [1], *Alison Loren* [1], *Elizabeth O. Hexner* [1], *Sunita D. Nasta* [1], *Noelle V. Frey* [1], *Saar Gill* [1], *James Mangan* [1], *Lee P. Richman* [3], *Taku Kambayashi* [2], *Edward A. Stadtmauer* [1], *Robert H. Vonderheide* [3], *Rosemarie Mick* [4], *David L. Porter* [1]. [1] *Blood and Marrow Transplantation Program, Abramson Cancer Center, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA;* [2] *Pathology and Laboratory Medicine, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA;* [3] *Abramson Family Cancer Research Institute, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA;* [4] *Biostatistics and Epidemiology, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA*

Background: Younger donor age is associated with better survival in unrelated donor bone marrow transplants, but young unrelated donors have not shown an overall survival

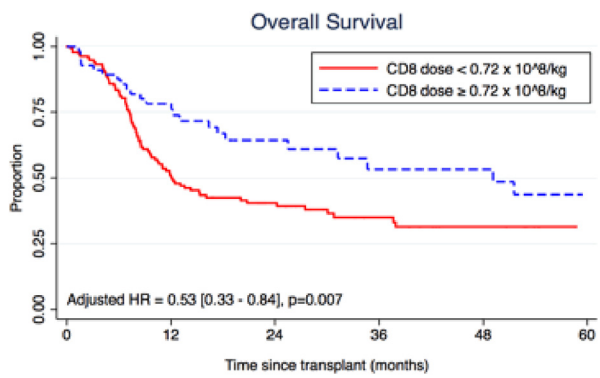

Fig. 1. CD8 cell dose and overall survival.